

REMARKS

The applicant respectfully requests that the mailing date of the Office Action, paper number 18, be changed from September 9, 2003, to October 6, 2003, which is the date it was faxed by the Patent Office to the applicant's attorney of record. The initial document was not sent by the Patent Office to the attorney of record, but instead to Genencor International.

Currently pending in the application are claims 1-5, 7-8, 12-16, 19-21, 25, 27-30 and newly added claims 32 and 33. Claims 6, 9-11, 17-18, 22-24, 26 and 31 are cancelled in this amendment.

The Applicant has adopted the Examiner's suggestions in claims 8 and 21 to use "and wherein" for clarification. The unnecessary phrase "commercial levels" is deleted from claims 15 and 25, and claim 16 amended to properly depend from claim 15. Claim 25 is amended to recite production of a biomass and to recite production of laccase, also for clarification and consistency.


The claims have been rejected, the Examiner noting that while the specification teaches production of laccase in a plant by seed-preferred expression, the claim language to that effect should be included in the claims. By preferentially directing expression of laccase to the seed of the plant the plant is protected from adverse effects of the laccase, and thus can accumulate laccase without dying. The last amendment was not entered as the recitation of expression levels of 0.01% was deleted from the independent claims. With this amendment the Applicant has reinserted the recitation of seed-preferred expression and recitation of expression level of 0.01% into these claims. Claims 1, 15 and 25, and accordingly all of the claims depending from same (2-5, 7, 8, 12-14, 16, 19-21, 27-30, 32-33) include that language.

Further, when the laccase is also secreted to the cell wall, expression can be enhanced as well. Thus, new claim 32 depends from claim 1, and in addition to reciting expression to the seed of the plant, also recites the laccase expression is directed to the cell wall. New claim 33 depends from claim 25, and likewise recites a method where expression of the laccase is preferentially directed to the cell wall. Claim 16 recites the method of producing laccase in plants where expression of the laccase is preferentially directed to the cell wall.

In order to expedite prosecution of the application, and reserving rights to pursue the claims in a continuing application, the Applicant has cancelled the claims reciting sequences which hybridize to SEQ ID NO: 1 (Claims 11, 22 and 24).

The amendments submitted do not introduce new matter and are responsive to new comments and/or requests of the Examiner. It is submitted the amendment places the claims in condition for allowance or better condition for appeal. For these reasons, reconsideration and allowance of the claims is respectfully requested. The Examiner is invited to contact the attorney of record below with any questions or concerns.

Respectfully submitted,


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Claims after amendment (clean copy)

Claim 1 A transgenic plant comprising a nucleotide sequence encoding laccase, operably linked to a promoter which controls expression of the laccase in the plant wherein the the laccase is expressed at levels of about 0.01% or higher of the total soluble protein of said plant and is preferentially expressed in the seed of said plant.

Claim 2 The plant of claim 1 wherein the laccase is produced at levels of about 0.1% or higher.

Claim 3 The plant of claim 1 wherein the laccase is produced at levels of about 1% or higher.

Claim 4 The plant of claim 1 wherein the laccase is produced at levels of about 10% or higher.

Claim 5 The plant of claim 1 wherein the plant is corn.

Claim 6 (Cancelled)

Claim 7 The plant of claim 1 wherein the nucleotide sequence is a fungal nucleotide sequence.

Claims 8 The plant of claim 1 wherein the plant is maize and wherein the nucleotide sequence is a *Trametes versicolor* nucleotide sequence.

Claim 9 (Cancelled)

Claim 10 (Cancelled)

Claim 11 (Cancelled)

Claim 12 The plant of claim 1 wherein the promoter is a globulin promoter.

Claim 13 Seed of the plant of claim 1.

Claim 14 Plant cells of the plant of claim 1

Claim 15 A method of producing laccase in plants comprising introducing a construct into the plant comprising a nucleotide sequence encoding laccase operably linked to a promoter which directs expression in the plant wherein the laccase is expressed at levels of about 0.01% or higher of the total soluble protein of said plant and is preferentially expressed in the seed of said plant.

Claim 16 The method of claim 15 wherein the construct comprises a signal sequence preferentially directing expression of the laccase to the plant cell wall.

Claim 17 (Cancelled)

Claim 18 (Cancelled)

Claim 19 The method of claim 15 wherein the promoter is a globulin promoter.

Claim 20 The method of claim 15 wherein the nucleotide sequence is a fungal nucleotide sequence.

Claims 21 The method of claim 15 wherein the plant is maize and wherein the nucleotide sequence is a *Trametes versicolor* nucleotide sequence.

Claim 22 (Cancelled)

Claim 23 (Cancelled)

Claim 24 (Cancelled)

Claim 25 A method of producing laccase, comprising producing a biomass from a plurality of plants, of which at least certain plants contain a nucleotide molecule comprising a heterologous nucleotide sequence encoding laccase, the nucleotide sequence operably linked to a promoter to control expression of the laccase, wherein the laccase is expressed at levels of about 0.01% or higher total soluble protein of said plant and is preferentially expressed in the seed of said plants, growing the plants to produce a biomass, and extracting the laccase from the biomass to produce laccase.

Claim 26 (Cancelled)

Claim 27. The plant of claim 1 wherein the plant is a monocotyledonous plant.

Claim 28. The seed of claim 13 wherein the seed plant is a monocotyledonous plant seed.

Claim 29. The plant cells of claim 14 wherein the plant cells are cells of a monocotyledonous plant.

Claim 30. The method of claim 25 wherein the plants are monocotyledonous plants.

Claim 31. (Cancelled)

Claim 32 The plant of claim 1 comprising sequences which preferentially direct expression of the laccase to the cell wall.

Claim 35 The method of claim 25 wherein the laccase expression is preferentially directed to the plant cell wall.